

What Is Claimed Is:

1. A die attach package for connecting a die-down die in a die-up orientation, the die attach package comprising:

- 5 a. a substrate having a plurality of leads for connection to the die-down die and to a printed circuit board;
- b. means to physically connect the die to said substrate, wherein said means is electrically non-conductive; and
- 10 c. a plurality of connectors corresponding in number to the number of said leads, wherein said connectors electrically connect the die to said leads,

wherein said leads are arranged as part of said substrate such that they pass under the die when the die is connected to said substrate.

15 2. The package as claimed in **Claim 1** wherein said leads are formed as traces on said substrate.

20 3. The package as claimed in **Claim 2** wherein said substrate is a ceramic substrate.

4. The package as claimed in **Claim 2** wherein said substrate is an organic substrate.

25 5. The package as claimed in **Claim 2** wherein each of said traces terminates at a first end thereof with a via for connecting to the printed circuit board and wherein a second end of each of said traces is connected to one of said plurality of connectors.

30 6. The package as claimed in **Claim 1** wherein each of said plurality of connectors is a metal wire.

7. The package as claimed in **Claim 1** wherein said plurality of leads form part of a lead frame.

5 8. The package as claimed in **Claim 1** wherein said means to physically connect the die to said substrate is an adhesive.

9. A process for packaging a die-down die in a die-up orientation comprising the steps of:

- 10 a. forming a substrate with a plurality of leads, wherein each of said plurality of leads is continuous;
- b. coupling the die to said substrate with a non-electrically conductive material such that said plurality of leads substantially pass thereunder; and
- 15 c. connecting a corresponding number of connectors from contacts of the die to said plurality of leads.

10 10. The process as claimed in **Claim 9** wherein said leads are traces on said substrate, wherein each of said traces terminates at a first end thereof in a via for connection to the printed circuit board, wherein a second end of each of said traces is connected to a corresponding one of said connectors.

11. The process as claimed in **Claim 9** wherein said leads are leads of a lead frame, wherein each of said leads terminates at a first end thereof in a contact for connection to the printed circuit board, wherein a second end of each of said leads is connected to a corresponding one of said connectors.

12. The process as claimed in **Claim 9** wherein said substrate is a ceramic substrate.

30

14. The process as claimed in ~~Claim 9~~ wherein each of said connectors is a
5 metal wire.

22nd
1/22

[illegible]